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09/693,027	10/20/2000	Gregory M. Callis	5577-215	8047
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MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
			EXAMINER TRAN, LAMBERT L	
			ART UNIT 2144	PAPER NUMBER /0
DATE MAILED: 03/10/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/693,027

Applicant(s)

CALLIS ET AL.

Examiner

Lambert L. Tran

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.9.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Action is in response to Applicant's Amendment (Paper #8) filed on 15 December 2003.
2. Claims 1, 11, 21 are amended. Claims 1-30 remain pending.

### ***Priority***

3. No claim for priority has been made in this application.

### ***Information Disclosure Statement***

4. The information disclosure statements (IDS) submitted on 28 March 2001 (Paper #5), and on 17 February 2004 (Paper #9) have been considered by the Examiner (see attached PTO 1449's).

### ***Drawings***

5. Figures 1, 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). The said figures are admitted Prior Arts on Pages 2-3 of the Specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

6. Applicant's arguments, see Amendment (Paper #8), Page 12 filed on 15 December 2003, with respect to claims 10, 20, 30 have been fully considered and are persuasive. The rejections ***35 USC § 112, second paragraph*** of claims 10, 20, 30 have been withdrawn.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 11-12, 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pitkin et al., U.S. Patent No 5,341,477, hereinafter referred to as Pitkin.

9. In regard to claims 1, 11, 21 Pitkin disclosed:

*A method, system and computer program product for distributing workload between a plurality of data processing systems in a cluster of data processing systems (resource allocation broker), wherein each of the plurality of data processing systems is executing an instance of an application (having available resource) which communicates over a network such that a connection request to the application may be distributed to any one of the plurality of data processing systems, [see Pitkin, ABSTRACT] comprising:*  
*defining (selecting, monitoring) a subset of the plurality of data processing systems (servers) which are to receive connection requests to the application having at least one predefined characteristic; [see Pitkin, ABSTRACT. The predefined characteristics further disclosed in*

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detail by Pitkin in Figure 3. They could be the “service characteristics required per service” or “server parameters” such as performance, availability or capacity. Figure 3 of Pitkin’s invention also showed how the subsets of servers are constructed].

*receiving a request for a connection to the application over the network; [see Pitkin, Figure 1, and col. 2, lines 38-39].*

*determining if the request has a characteristic corresponding to the at least one predefined characteristic associated with the subset of the plurality of data processing systems [see Pitkin, col. 2, lines 38-41, lines 55-57]; and*

*distributing the request to one of the subset of the plurality of data processing systems if the request has a characteristic corresponding to the at least one predefined characteristic (server capacity) [see Pitkin, col. 9, lines 17-18].*

10. In regard to claims 2, 12, 22, Pitkin further disclosed:

*distributing the request to a data processing system of the plurality of data processing systems (second server entry) other than a data processing system in the subset of data processing systems if the request does not have a characteristic (first entry fails) corresponding to the at least one predefined characteristic [see Pitkin, col. 10, lines 64-66].*

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3-8, 13-18, 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkin, in view of Masters, U.S. Patent No 6,374,300.

13. In regard to claims 3, 13, 23, Pitkin disclosed the invention substantially as claimed. However, Pitkin did not specifically disclose the use of *client identification associated with the request*. In the same field of managing load balancing, Masters disclosed a method for encoding *a unique client identification associated with the request* [see Masters, col. 2, lines 24-58, col. 15, lines 58-62]. An ordinary artisan in the art at the same time the invention was made, would have been motivated to look to a way to provide an effective method for persistently mapping a client's relationship to the server that handles the request [see Masters, col. 2, lines 8-11], since persistent connection improves cluster throughput by means of increasing locality in cache.

14. Accordingly, it would have been obvious to one of ordinary skill in the client-server art at the time the invention was made to have incorporated Masters' teachings of using client identification associated with the request [see Masters, col. 2, lines 24-58, col. 15, lines 58-62] with the teachings of Pitkin in managing load balance for the purpose of providing a system which increases the resource capacities of the servers [see Pitkin, col. 2, lines 29-30].

15. In regard to claims 4, 14, 24, Pitkin disclosed *a method determining the availability, distributing the request* [see Pitkin, col. 9, lines 6-8, lines 17-19].

16. In regard to claims 5, 15, 25, Pitkin disclosed *distributing the request to a data processing system of the plurality of data processing systems other than a data processing system in the subset of data processing systems* [see Pitkin, col. 10, lines 64-66].

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17. In regard to claims 6, 16, 26, Pitkin disclosed *the step of rejecting (send an error message) the request if the request has a characteristic corresponding to the at least one predefined characteristic of the subset* [see Pitkin, col. 10, lines 49-52].

18. In regard to claims 7, 17, 27, the combination Pitkin-Masters disclosed *a method determining the availability, distributing the request, and distributing the request to the best availability* [see Pitkin, col. 9, lines 6-8, lines 17-19, see Masters, col. 7, lines 54-61].

19. In regard to claims 8, 18, 28, Pitkin disclosed *the step of defining a subset of the plurality of data processing systems comprises the step of including in the subset of the plurality of data processing systems, data processing systems having common operational characteristics* [see Pitkin, Modeling and Network Policy, col. 5, lines 1-67].

20. Claims 9-10, 19-20, and 29-30, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkin, in view of Aiken et al., U.S. Patent No 6,430,622, hereinafter referred to as Aiken.

21. In regard to claims 9, 19, 29, Pitkin disclosed the invention substantially as claimed. However, Pitkin did not expressly disclose *wherein the data processing systems comprise communication protocol stacks bound to the application in an OS/390 Sysplex and wherein the subset of the plurality of data processing systems comprise a subset of the communication protocol stacks bound to the application*.

22. In the same field of network cluster art, Aiken disclosed in the IBM OS/390 Sysplex architecture, the Dynamic Name Server (DNS) and the Work Load Manager (WLM), which is implemented in the communication protocol stack. The DNS/WLM considers relative workloads among the nodes supporting the requested application, and will return the IP address (*the*

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*communication protocol stacks bound to the application*) for the most appropriate available server [see Aiken, col. 2, lines 4-8]. An ordinary artisan in the art at the same time the invention was made, would have been motivated to look to a way to implement (carry out) the load balancing techniques taught by Pitkin in the IBM OS/390 Sysplex architecture because this architecture is widely used with a strong installation base, and the area to implement the load balancing feature would be in the communication protocol stack of the IBM OS/390, since it is where the DNS/WLM handling all the workload of the cluster in this architecture.

23. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention is made to implement the load balancing techniques disclosed in Pitkin teachings in the communication protocol stack of IBM OS/390 Sysplex as disclosed by Aiken, since this is a logical and seamless area for managing workload in this architecture, and logical and seamless are the most common design goals when one wants to improve an existing architecture.

24. In regard to claims 10, 20, 30, the combination inventions of Pitkin-Aiken disclosed: *the steps of defining, receiving, determining and distributing are carried out by a routing communication protocol stack* [see Pitkin, Modeling and Network Policy, col. 5, lines 1-67, see Aiken, col. 2, lines 4-8].

25. Since all the claims limitations are taught by Pitkin and Aiken, claims 1-30 are rejected.

### ***Response to Arguments***

26. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.



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***Conclusion***

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lambert L. Tran whose telephone number is (703) 305-4663.

The examiner can normally be reached on M-F at 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack B Harvey can be reached on (703) 305-9705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Assistant Examiner  
GAU 2144  
04 March 2004

  
JACK B. HARVEY  
SUPERVISORY PATENT EXAMINER